REMARKS

Objections to Abstract

The length of the Abstract has been reduced to under 150 words.

Objections to Drawings

Replacement sheets are submitted for Figures 5-9 and 12 to eliminate instances where lines cross over text, the text is not centered in boxes, and the lines or boxes are shaded either too dark or too light. The graphic contents and lengthy text labeling have been abstracted. No new matter has been added.

Objections to Claims

The indefiniteness objected to in Claim 6 is corrected by substituting the phrase "likely to be encountered" with the more definite phase "expected to be encountered".

The objections to Claims 14 and 16-18 as directed to a computer algorithm for manipulating data structures which is subject matter not qualified for patenting are addressed by reciting the tangible, technical step of "providing a display in a visual form ... for identifying elements or series of elements in the input data corresponding to modeled agent behavioral expression".

The objections to Claims 1-20 as reciting indefinitely defined "primitive behavioral states" and "more complex behavioral states" are addressed by deleting these terms and reciting instead the defining of "behavioral state variables" for modeling agent behavioral expression by linking of the variables, and rating the probability of expression in response to elements or series of elements expected to be found in real-world input data. The operation of the computer simulation method is defined in terms of as monitoring agent behavioral responses to elements or series of elements in real-world input data, and providing a display of traversals and ratings of linked behavioral state variables to identify those elements or series of elements in the real-world input data that correspond to the modeled agent behavioral expression. Support for these recited terms are found on Page 13, Line 19, to Page 15, Line 5, on Page 16, Line 27, to Page 19, Line 2, and Page 24, Line 21, to Page 27, Line 16. No new matter is deemed to have been added.

Claim Rejections Under 35 USC Sections 102 and 103

Clarification of the invention subject matter over prior art is submitted for purposes of advancing prosecution, and is not deemed to be a surrender of any previously recited or equivalent invention subject matter. Main Claims 1, 14, and 19 are amended to define the invention subject matter more clearly as modeling agent behavioral expression by defining the linking of the behavioral state variables, and rating the probability of expression in response to elements or series of elements expected to be found in real-world input data, and providing a computer simulation output in a visual form of the agent's behavioral responses in terms of linkage traversals and the ratings of linked behavioral state variables in response to elements or series of elements in the real-world input data in order to identify those elements or series of elements that correspond to the modeled agent behavioral expression.

In contrast, the Breese U.S. Patent 6,185,534 describes a computer user interface in which an observer module uses a Bayesian network of behavioral variable states to observe the behavioral characteristics of a user on the computer, and provides a user behavioral profile to an interface agent module which uses a Bayesian network of behavioral variable states to generate a response to the user matched to the type of behavioral response that would best suit the user's behavioral profile. The Tsikalas article on the SIMS™ video game describes the programming of character behavior types in a character simulation game. Neither prior art reference describes or suggests providing a computer simulation output in a visual form of the agent's behavioral responses in terms of linkage traversals and the ratings of linked behavioral state variables in response to elements or series of elements in the real-world input data in order to identify those elements or series of elements that correspond to the modeled agent behavioral expression, as now more clearly defined in main Claims 1, 14, and 19. Further, neither reference running such a computer simulation method against the types of real-world input data sources as defined in Claim 4 and 15, nor the monitoring of keyword matches in input text and types of unique visual displays as defined in Claims 9-13, 17 and 20.

In summary, the Application and Claims 1-20 as amended are now deemed to be in condition for allowance, and it is requested that a Notice of Allowance be issued upon reconsideration.

AMENDMENT OF ABSTRACT

A computer simulation method is provided for modeling the behavioral expression of one or more <u>computerized</u> agents ~~in an environment to be simulated, then~~ <u>for</u> running a simulation ~~of the modeled agent(s)~~ against real-world ~~information as~~ input data ~~reflecting changing conditions of the environment being simulated~~, and <u>providing a visual display identifying elements in the input data corresponding to</u> ~~obtaining an output based on~~ the modeled agent(s) response(s). ~~The simulation method models the underlying cultural, social, and behavioral characteristics on which agent behaviors and actions are based, rather than modeling fixed rules for the agent's actions. The input data driving the simulation are constituted by real-world information reflecting the changing conditions of the environment being simulated, rather than an artificial set of predefined initial conditions which do not change over time. As a result, the simulation output of the modeled agent's responses to the input information can indicate more accurately how that type of participant in the simulated environment might respond under real-world conditions.~~ Simulations can be run on <u>sources of input data on</u> global networks for agent types of different cultures, societies, and behaviors, <u>such as news feeds, text communications, and reports, in order to identify keywords or phrases therein that correspond to agent behavioral expressions being monitored</u> ~~with global sources of information. Simulation environments can include problems and situations in a wide range of human activity.~~ Robust new visual tools are provided for discerning patterns and trends in the simulation data, including waveform charts, star charts, grid charts, and pole chart<u>s</u> ~~series~~.

AMENDMENT OF CLAIMS

(Claim 1, currently amended)

1.   A computer simulation method for <u>determining when an element or series of</u> <u>elements in real-world input data corresponds to a high probability of response of a computerized</u> <u>agent modeled with behavioral expressions corresponding to an agent "personality type" or "point-or-</u> <u>view"</u> ~~modeling the response of one or more agents to real-world input data~~, comprising:

(a)   modeling ~~an~~ <u>a computerized</u> agent's behavioral expressions <u>from a plurality of</u> <u>behavioral state variables, each of which is rated on a scale of probability of expression for the</u> <u>"personality type" or "point of view" represented by the agent, and each of which is linked in</u> <u>dependency to one or more of the other behavioral state variables,</u> ~~in terms of a series of "scales" for~~ ~~behavioral expression within a given cultural environment in response to real-world input data,~~ ~~wherein the scales of behavioral expression progress in logical definition from more primitive~~ ~~behavioral states to more complex behavioral states within the given cultural environment, and~~ ~~wherein the agent's behavioral expression includes at least one expected agent behavioral response~~ ~~on one scale that is linked as an expected agent behavioral response on one other scale, whereby at~~ ~~least one example of a progression in agent behavioral responses across the scales can be monitored~~ ~~in the agent's behavioral expression~~ <u>and wherein the probability of expression for each behavioral</u> <u>state variable is rated for an element or series of elements expected to be found in real-world input</u> <u>data in a computer simulation using said method, whereby a traversal through linked behavioral state</u> <u>variables of the computerized agent in response to an element or series of elements in the real-world</u> <u>input data can be monitored from an input linkage stage to a terminating linkage stage in terms of</u> <u>order of linked behavioral state variables traversed and probability rating for the element or series of</u> <u>elements for each of the behavioral state variables traversed;</u>

(b)   running a computer simulation in which one or more agents having respectively modeled behavioral expressions are selected to interact with <u>a</u> selected ~~sources~~ of real-world input data;

(c)   monitoring the interaction of ~~the expected agent behavioral responses of the~~ ~~agent(s)~~ <u>an agent</u> in the computer simulation with the selected sources of real-world input data, <u>in</u> <u>terms of the order and ratings for the linked behavioral state variables traversed for respective</u> <u>elements or series of elements in the real-world input data;</u> and

(d)   displaying <u>the order of traversals and ratings for linked behavioral state</u> <u>variables in</u> a simulation output in a visual form depicting the interaction of the ~~expected agent~~ ~~behavioral responses of the agent(s)~~ <u>agent</u> in the computer simulation with the selected sources of real-world input data <u>so that a high probability of response of the "personality type" or "point-or-</u><u>view" represented by the computerized agent can be identified for a specific element or series of</u> <u>elements in the real-world input data</u>.

(Claim 2, currently amended)

2.   A computer simulation method according to Claim 1, wherein the ~~"scales" for~~ behavioral ~~expression~~ <u>state variables</u> include one or more behavioral types of the group consisting of: cultural characteristics; social characteristics; behavioral characteristics; emotional states; social interaction types; human desires; human beliefs; human empathy types; individual personality types; perception modes; and decision-making processes.

(Claim 3, currently amended)

3.   A computer simulation method according to Claim 1, wherein the the ~~"scales"~~ ~~for~~ behavioral ~~expression~~ <u>state variables</u> include one or more behavioral types of the group consisting of:

Scale of agent's consciousness or awareness of information that may be of interest;

Scale of agent's navigation patterns, including the impulse to move in a particular direction, emotional patterns of the agent, or modes of categorizing and assigning labels to information items;

Scale of agent's actions and reactions (including emotions) or intuition on a sense level to information;

Scale of "information mulling" modes by which the agent retains a reservoir of information minutia and creates associations between information items;

Scale of agent's employment of personal information filters and contextual memory for extracting meaning based on the agent's experience, and the roles they play;

Scale of agent's employment of culturally-based filters, environmental assumptions and conditions, and/or social influences to extract meaning from information items;

Scale of agent's learned modes of extracting meaning from externally presented information through media channels, news of events, images and portraits, current priorities, and

other external phenomena, that may cause them to put medium or long term processes into effect or influence a particular response as typical;

Scale of agent's learned or enduring knowledge of the environment he/she is involved in, its history, and its trends into the future;

Scale of agent's complex of deeply held beliefs (including religion) and cultural or archetypal values; and

Scale of agent's world view or overriding ethos through which all things, from the cosmos down to abstract minutia, are perceived.

(Claim 4, original)

4.   A computer simulation method according to Claim 1, wherein the real-world data input includes one or more sources from the group consisting of: news sources; broadcast media; communications and interactions between participants; publicly available information; information sources available to selected agents; information sources available to selected organizations; analyst reports; reviews; search data; general literature; movies; images; sound; and other human perceptual data.

(Claim 5, original)

5.   A computer simulation method according to Claim 1, wherein the agent(s) selected to be run in the computer simulation include one or more agent types from the group consisting of: members of an organization; positions within an organization; a leader or "node" within an organization; a follower within an organization; a competitor to an organization; an enduring influence in the given cultural environment; domain knowledge in the given cultural environment; terrain knowledge in the given cultural environment; and a society, organization or institution.

(Claim 6, currently amended)

6.   A computer simulation method according to Claim 1, wherein the agent's behavioral expression is defined in terms of expected agent behavioral responses to input data entries representing data occurrences ~~likely~~ expected to be encountered in a real-world data source, and the real-world data input is a source of input data entries containing such data occurrences.

(Claim 7, currently amended)

7.   A computer simulation method according to Claim 1, wherein ~~within~~ for each ~~scale~~ variable a plurality of refined "levels" of agent behavioral responses ~~within that scale~~ are defined.

(Claim 8, original)

8.   A computer simulation method according to Claim 7, wherein within each level a plurality of refined "degrees" of agent behavioral responses within that level are defined.

(Claim 9, currently amended)

9.   A computer simulation method according to Claim 1, wherein the agent's behavioral expression is defined in terms of response to keywords that are expected to be found ~~the agent responds to~~ in real-world text data, and the computer simulation proceeds by filtering the input real-world text data for keywords matching those of a word list associated with the modeling of the agent(s) selected for the simulation, and the matched keywords are processed through the agent's behavioral expression by linking keyword matches ~~found at each scale to other keyword matches found at each other linked scale until the linking of input-response matches reaches a terminating stage~~.

(Claim 10, currently amended)

10.   A computer simulation method according to Claim 9, wherein the processing of keyword matches through the agent's behavioral expression is monitored and displayed in a visual form in a waveform chart displaying the frequency of keyword matches of the input text ~~in terms of scale/level/degree~~.

(Claim 11, currently amended)

11.   A computer simulation method according to Claim 9, wherein the processing of keyword matches through the agent's behavioral expression is monitored and displayed in a visual form in a star chart displaying patterns of ~~scale progression~~ traversal of linked behavioral state variables for an agent expression in response to an input text.

(Claim 12, currently amended)

12.   A computer simulation method according to Claim 9, wherein the processing of keyword matches through the agent's behavioral expression is monitored and displayed in a visual form in a grid chart displaying the patterns of ~~scale progression~~ traversal of linked behavioral state variables for an agent expression in response to an input text.

(Claim 13, currently amended)

13.   A computer simulation method according to Claim 9, wherein the processing of keyword matches through the agent's behavioral expression is monitored and displayed in a visual form in a pole chart displaying markers for keyword "hits" of an agent expression in response to an input text ~~in terms of scales as poles, level as vertical position on the poles, and degree as horizontal position of a marker at a given level on a given pole~~.

(Claim 14, currently amended)

14.   A method for programming a computer simulation of the response of one or more computerized agents to real-world input data, comprising:

(a)   modeling ~~an~~ a computerized agent's behavioral expressions from a plurality of behavioral state variables, each of which is rated on a scale of probability of expression for the "personality type" or "point of view" represented by the agent, and each of which is linked in dependency to one or more of the other behavioral state variables, ~~in terms of a series of "scales" for behavioral expression within a given cultural environment in response to real-world input data, wherein the scales of behavioral expression progress in logical definition from more primitive behavioral states to more complex behavioral states within the given cultural environment, and wherein the agent's behavioral expression includes at least one expected agent behavioral response on one scale that is linked as an expected agent behavioral response on one other scale, whereby at least one example of a progression in agent behavioral responses across the scales can be monitored in the agent's behavioral expression~~ and wherein the probability of expression for each behavioral state variable is rated for an element or series of elements expected to be found in real-world input data in a computer simulation using said method, whereby a traversal through linked behavioral state variables of the computerized agent in response to an element or series of elements in the real-world input data can be monitored from an input linkage stage to a terminating linkage stage in terms of order of linked behavioral state variables traversed and probability rating for the element or series of

elements for each of the behavioral state variables traversed;

(b)   selecting one or more agents having respectively modeled behavioral expressions ~~are selected~~ to interact with a selected sources of real-world input data; and

(c)   providing for a display in a visual form of the order of traversals and ratings for linked behavioral state variables in a computer simulation output depicting the interaction of the agent with the selected source of real-world input data so that a high probability of response of the "personality type" or "point-or-view" represented by the computerized agent can be identified for a specific element or series of elements in the real-world input data ~~programming the operation of the computer simulation to proceed by filtering the real-world input data for matches to a behavioral response list associated with the modeling of the agent(s) selected for the simulation, and processing the matched behavioral responses through the agent's behavioral expression by linking behavioral response matches found at one scale to other behavioral response matches found at each other scale until the linking of input-response behavioral response matches reaches a terminating stage.~~

(Claim 15, currently amended)

15.   A method for programming a computer simulation according to Claim 14, ~~further comprising programming a display of simulation output in a visual form depicting the interaction of the expected agent behavioral responses of the agent(s) in the computer simulation with the selected sources of real-world input data~~ wherein the display is in the form of one of the group of display types comprising: a waveform chart displaying the frequency of matches of elements or series of elements in the real-world data input; a star chart displaying patterns of traversal of linked behavioral state variables for an agent's behavioral expression in response to the real-world data input; a grid chart displaying patterns of linked behavioral state variables for an agent's behavioral expression in response to the real-world data input;. and a pole chart displaying markers for frequency of matches of elements or series of elements in the real-world data input.

(Claim 16, currently amended)

16.   A method for programming a computer simulation according to Claim 14, wherein the ~~"scales" for~~ behavioral ~~expression~~ state variables include one or more behavioral types of the group consisting of: cultural characteristics; social characteristics; behavioral characteristics; emotional states; social interaction types; human desires; human beliefs; human empathy types; individual personality types; perception modes; and decision-making processes.

(Claim 17, original)

17.   A method for programming a computer simulation according to Claim 14, wherein the real-world data input includes one or more sources from the group consisting of: news sources; broadcast media; communications and interactions between participants; publicly available information; information sources available to selected agents; information sources available to selected organizations; analyst reports; reviews; search data; general literature; movies; images; sound; and other human perceptual data.

(Claim 18, original)

18.   A method for programming a computer simulation according to Claim 14, wherein the agent(s) selected to be run in the computer simulation include one or more agent types from the group consisting of: members of an organization; positions within an organization; a leader or "node" within an organization; a follower within an organization; a competitor to an organization; an enduring influence in the given cultural environment; domain knowledge in the given cultural environment; terrain knowledge in the given cultural environment; and a society, organization or institution.

(Claim 19, currently amended)

19.   A visual analysis tool for a computer simulation of the response of one or more computerized agents to real-world input data, comprising a display of simulation output in a visual form depicting the interaction of the ~~expected agent behavioral responses of the agent(s)~~ computerized agent in the computer simulation with ~~the~~ a selected sources of real-world input data,

wherein an agent's behavioral expression is modeled in terms of ~~a series of "scales" for behavioral expression within a given cultural environment in response to real-world input data, wherein the scales of behavioral expression progress in logical definition from more primitive behavioral states to more complex behavioral states within the given cultural environment, and wherein the agent's behavioral expression includes at least one expected agent behavioral response on one scale that is linked as an expected agent behavioral response on one other scale, whereby at least one example of a progression in agent behavioral responses across the scales can be monitored in the agent's behavioral expression~~ a plurality of behavioral state variables, each of which is rated on a scale of probability of expression for the "personality type" or "point of view" represented by

the agent, and each of which is linked in dependency to one or more of the other behavioral state variables, and wherein the probability of expression for each behavioral state variable is rated for an element or series of elements expected to be found in real-world input data in a computer simulation using said method, whereby a traversal through linked behavioral state variables of the computerized agent in response to an element or series of elements in the real-world input data can be monitored from an input linkage stage to a terminating linkage stage in terms of order of linked behavioral state variables traversed and probability rating for the element or series of elements for each of the behavioral state variables traversed;

wherein one or more agents having respectively modeled behavioral expressions are selected to interact with a selected sources of real-world input data; and

wherein the ~~operation of the computer simulation proceeds by filtering the real-world input data for matches to a behavioral response list associated with the modeling of the agent(s) selected for the simulation, and processing the matched behavioral responses through the agent's behavioral expression by linking behavioral response matches found at one scale to other behavioral response matches found at each other scale until the linking of input-response behavioral response matches reaches a terminating stage~~ display depicts the order of traversals and ratings for linked behavioral state variables in a computer simulation output depicting the interaction of the agent with the selected source of real-world input data so that a high probability of response of the "personality type" or "point-or-view" represented by the computerized agent can be identified for a specific element or series of elements in the real-world input data

(Claim 20, currently amended)

20. A visual analysis tool for a computer simulation according to Claim 19, wherein the rated elements or series of elements are keywords expected to be found in input text data, and the visual display is one or more display types from the group consisting of:

(i) a waveform chart displaying the frequency of keyword matches ~~of~~ for an agent expression in response to an input text ~~in terms of scale/level/degree~~;

(ii) a star chart displaying patterns of scale progression for an agent expression in response to an input text;

(iii) a grid chart displaying the patterns of ~~scale progression~~ traversal of linked behavioral state variables for an agent expression in response to an input text;

(iv) a pole chart displaying markers for keyword "hits" of an agent expression in

response to an input text ~~in terms of scales as poles, level as vertical position on the poles, and degree as horizontal position of a marker at a given level on a given pole~~; and

       (v)   a waveform chart displaying the frequency of keyword matches <u>of an agent expression in response to an input text</u> ~~of the real-world input data in terms of time~~.